



April 14, 2023

Peter Ramanauskas  
U.S. EPA Region 5  
77 West Jackson Blvd.  
Chicago, Illinois 60604-3590

Dear Mr. Ramanauskas:

Re: RCRA Corrective Action Administrative Order on Consent (AOC)  
Progress Report 84, October 2022 through March 2023  
GM Casting Operations Bedford Facility, ID 006036099, Docket No. RCRA 05 2017 0011  
Bedford, Indiana

This Progress Report is submitted by General Motors LLC (GM) in accordance with the GM Bedford Casting Operations (BCO) Facility Resource Conservation and Recovery Act (RCRA) Administrative Order on Consent (AOC – United States Environmental Protection Agency [U.S. EPA] Docket No. RCRA 05-2014-0011), executed on August 4, 2014. This report covers the period from October 2022 through March 2023 for the RCRA Corrective Action (CA) Project at the GM BCO – Bedford Facility (Facility) and select surrounding properties (Site), Bedford, Indiana.

The next RCRA progress report covering April 2023 through September 2023 will be submitted on or before October 15, 2023.

## 1. List of Completed Activities

The following activities took place, and the following documents were prepared and distributed during this quarter:

1. The Groundwater Treatment Plant (GWTP) collected and treated water from the Pilot Trench, Vault sumps, and wet wells during October 2022 through March 2023. An estimated 0.61 pounds of PCBs were removed during the reporting period through collection and treatment of the groundwater. A summary of the volumes and sample results used for this calculation is provided in Table 1. Operational and compliance samples were collected quarterly. Monthly discharge monitoring reports have been submitted to the State of Indiana in conformance with the National Pollutant Discharge Elimination System (NPDES) Permit Number IN0064424. A total of 12,888,558 gallons of treated groundwater were discharged during the reporting period.
2. Absorbent socks were removed and replaced from CH-5, MW-X209Y053, and CAMW-3 monthly from October 2022 through March 2023. Table 2 summarizes oil removal (based on disposal weights) from the AOI-8 area.
3. GHD informed U.S. EPA on October 6, 2022, of the Facility's plans to install electric vehicle charging stations along the west side of the West Plant Cover and that while the replaced



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cover system would be slightly different from the adjacent cap, the surface will be consistent with cap requirements outlined in 20 CFR 761.61(a) (7).

4. Landfill cover system mowing was conducted October 9, 2022
5. Progress Report 83 covering activities from April 2022 through October 2022 was submitted to U.S. EPA on October 14, 2022.
6. U.S. EPA provided comments on Progress Report 83 on October 19, 2022.
7. Slides from the September 2022 Annual and Public Meetings were sent to U.S.EPA on October 21, 2022.
8. GHD submitted a memo on October 21, 2022, summarizing the investigation and conclusions related to unexpected leachate volumes.
9. GHD provided revised Progress Report 83, responding to U.S. EPA comments, on October 21, 2022.
10. U.S. EPA requested additional information related to the unexpected leachate volume memo on October 24, 2022.
11. Dedicated pumps installation and corehole re-development of selection locations used for the Pilot Trench performance monitoring was conducted during the week of October 24, 2022.
12. GM provided third round of response to U.S. EPA's Corrective Measures Proposal (CMP) comments on October 26, 2022.
13. GM provided the 2023 financial assurance cost estimate to U.S. EPA by email dated November 14, 2022.
14. GHD provided additional information related to the unexpected leachate volumes to U.S. EPA on November 16, 2022.
15. Quarterly groundwater level monitoring was conducted the week of November 28, 2022.
16. GHD conducted the semi-annual cap inspection on November 28, 2022. Copies of the field inspection form and photos are provided in Attachment A.
17. EI CA750 groundwater monitoring was conducted the week of November 28, 2022.
18. U.S.EPA provided comments on the 2023 financial assurance cost estimate on November 30, 2022.
19. At the request of U.S. EPA, GHD provided a copy of the public meeting mailing list to U.S. EPA on November 30, 2022.
20. GM submitted the Construction Stormwater Pollution Prevention Plan, in accordance with Indiana Department of Environmental Management's (IDEM's) Construction Stormwater Plan General Permit to the City of Bedford on December 6, 2022.
21. GM selected Severson Environmental Services (SES) to perform the construction of the Phase II Trench. The notice to proceed was issued on December 6, 2022.
22. GHD submitted a letter to U.S. Fish and Wildlife Service (U.S. FWS) on December 16, 2022, requesting concurrence that the Phase II Trench construction would not likely adversely affect the Indiana bat.
23. SES mobilized to the Facility on January 2, 2023 to begin the Phase II Trench construction.
24. Fact Sheet 49 was distributed on January 4, 2023, to those in the Bedford community who expressed interest in routine project updates.
25. U.S. EPA provided approval of the 2023 financial assurance (contingent upon restoration of geophysics testing cost estimate) on January 4, 2023.
26. GHD submitted the revised 2023 financial assurance cost to include the geophysics testing on January 9, 2023.



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27. City of Bedford provided interim approval of site preparation activities on January 12, 2023, while they completed their review of the Construction Stormwater Pollution Prevention Plan.
28. Re-sampling of monitoring wells associated with the Pilot Trench performance monitoring activities was conducted during the week of January 16, 2023.
29. GM, U.S. EPA and GHD meet on January 18, 2023 to review select comments and responses for the CMP and LTOMMP.
30. GM, U.S. EPA and GHD meet on January 19, 2023 to review project history and planned corrective measures.
31. The City of Bedford provided their approval of the Construction Stormwater Pollution Prevention Plan on January 20, 2023. The Plan was uploaded to and accepted by IDEM's Office of Water Quality on January 23, 2023.
32. U.S. FWS provided a letter concurring that the Phase II Trench construction would not likely adversely affect the Indiana bat on January 11, 2023. A copy of the letter was forwarded to U.S. EPA on January 20, 2023.
33. U.S. EPA provided email concurrence on the Financial Assurance amount on January 20, 2023.
34. U.S. EPA provided comments on the Corrective Measures Proposal (CMP) responses to comments on January 30, 2023.
35. Quarterly groundwater level monitoring was conducted the week and February 20, 2023.
36. Testing for a septic field for the GWTP was conducted on March 7, 2023.
37. Routine project meetings updates were held with U.S.EPA and IDEM on October 20, November 17, and December 12, 2022. The regularly scheduled meeting for January 19 was canceled (due to the in-person meeting between parties).

## **2. Summaries of Problems and Planned Resolutions**

### **2.1 Concrete Sealing Upstream of Confluence**

GHD's design engineers met on-Site on February 16, 2023, to review creek conditions near the confluence of Bailey's Branch Creek with Tributaries 2 and 3 where an area of the concrete placed in 2012/2013 as part of the creek sealing activities had broken and shifted within the creek channel. GHD is developing preliminary plans for addressing this issue including installing a headwall at Tributary 2 that is keyed into the bedrock and creating a lined pool in the area where the concrete broke. This should reduce the potential from cracking due to freeze/thaw cycling.

### **2.2 Monthly Conference Calls**

The project team participates in regularly scheduled monthly conference calls. These calls were inadvertently cancelled in January 2023 when trying to cancel the January 2023 call (GM, U.S.EPA, and GHD meet in person on that day). The meetings have been re-established.

### **2.3 Cover System Inspections**

The cover system inspections have noted sapling growth, primarily in the ditches and at the edges of the cover system, are increasingly more difficult to pull by hand and with the use of a T-post remover. The subcontractor responsible for mowing the landfill has been contracted to pull these saplings using powered equipment. The work is scheduled to be conducted in the spring.



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Cover system inspections also noted that the asphalt cover system cracks are widening. These cracks will need to be cleaned and sealed. Due to construction activities related to the Phase II Trench, we will look at scheduling the asphalt work in early Fall, coinciding with the completion of the trench.

### 3. Projected Work for the Next Reporting Period

Work anticipated for the next reporting period includes:

1. Continue installation of the Phase II Trench
2. Continue OMM for the GWTP
3. Continue GWTP discharge reporting under the NPDES permit
4. Collect monthly transducer data from the Pilot Trench monitoring locations
5. Submit the draft Pilot Trench Performance Monitoring Summary Report
6. Finalize the 2021 TSCA Vault Annual Report upon U.S. EPA approval of responses to comments
7. Submit the results of the Residential Well investigation
8. Mow the East Plant Area cover system
9. Conduct the semi-annual cover system inspection
10. Re-seed select areas of the cover system
11. Pull saplings within the cover system
12. Submit revised CMP and LTOMMP
13. Submit the EI CA750 Sampling Results Second Half 2022
14. Submit the sampling summary for the second half 2022 EI CA750 monitoring
15. Conduct the first half 2023 EI CA750 sampling event and the quarterly static water level gauging
16. Provide U.S. EPA and IDEM project updates via emails and/or telephone calls
17. Conduct annual Agency meeting
18. Host a public update meeting
19. Launch the updated public-facing project web site
20. Prepare the Spring 018 Area Decommissioning Plan including the confluence concrete repair

Please feel free to call me at 313-506-9465 if you have any questions concerning this information or otherwise regarding the GM BCO Project.

Sincerely,



Ed Peterson  
Project Manager, Eco-Restorers  
GM Sustainable Workplaces

Encl.

cc: Corey Peaslee; U.S. EPA  
Chris Myer; IDEM  
Nathan Milliman; General Motors

Katie Kamm; GHD  
Julie Luzwick; GHD  
John Maher; General Motors



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# Tables

**GWTP PCB Mass Removal Estimate  
GM BCO Facility  
Bedford, Indiana**

	<b>Groundwater Treatment Plant (GWTP) Treated Volume (gallon)</b>	<b>PCB Influent Concentration <sup>(1,3)</sup> (µg/L)</b>	<b>Mass PCB Treated <sup>(2)</sup> (pound)</b>
January 2019	5,467,881	0.71	0.032
February 2019	5,393,116	ND	0.000
March 2019	4,916,870	0.92	0.038
April 2019	5,547,708	1.5	0.069
May 2019	3,670,000	1.3	0.040
June 2019	5,542,417	1.2	0.056
July 2019	1,743,512	1.6	0.023
August 2019	930,385	1.1	0.009
September 2019	753,569	1.6	0.010
October 2019	977,015	1.5	0.012
November 2019	2,104,042	2.2	0.039
December 2019	3,099,964	1.4	0.036
January 2020	4,690,161	0.68	0.027
February 2020	3,642,899	1.1	0.033
March 2020	4,853,095	0.96	0.039
April 2020	2,681,548	1.4	0.031
May 2020	3,767,813	1.2	0.038
June 2020	2,295,164	0.96	0.018
July 2020	1,465,351	1.6	0.020
August 2020	2,109,119	0.89	0.016
September 2020	822,061	1.5	0.010
October 2020	1,663,537	1.24	0.017
November 2020	2,798,824	1.1	0.026
December 2020	2,045,106	1.1	0.019
January 2021	3,375,573	1.3	0.037
February 2021	4,192,610	1.2	0.042
March 2021	4,665,579	0.96	0.037
April 2021	3,035,075	0.7	0.018
May 2021	2,937,213	0.7	0.017
June 2021	1,746,454	0.7	0.010
July 2021	3,136,451	0.8	0.021
August 2021	1,148,478	0.8	0.008
September 2021	1,835,041	0.8	0.012
October 2021	2,261,232	2.3	0.043
November 2021	2,187,172	2.3	0.042
December 2021	4,396,238	2.3	0.084
January 2022	3,940,451	2.7	0.089
February 2022	5,937,720	2.7	0.134
March 2022	4,885,636	2.7	0.110
April 2022	4,175,292	1.3	0.045
May 2022	4,726,177	1.3	0.051
June 2022	2,092,135	1.3	0.023
July 2022	1,898,948	4.7	0.074
August 2022	1,721,448	4.7	0.068
September 2022	936,511	4.7	0.037
October 2022	651,661	5.8	0.032
November 2022	779,517	5.8	0.038
December 2022	1,557,031	5.8	0.075
January 2023	3,356,998	5.6	0.157
February 2023	2,626,151	5.6	0.123
March 2023	3,917,200	5.6	0.183
Total Estimated Volume of Water Treated During Reporting Period(gallons)			12,888,558
Total Estimated Mass of PCB Treated During Reporting Period (pounds)			0.61
Total Estimated Mass of PCB Treated, Since January 2019 (pounds)			2.27

## Notes:

- 1 PCB concentration based on an average of parent and duplicate sample, if duplicate sample was coll  
Quarterly influent sampling began in February 2021.
- 2 Mass removed =  $\frac{\text{treated volume (gallons)} \times \text{PCB concentration} (\frac{\mu\text{g}}{\text{L}}) \times 3.7854}{453.59 \times 1,000,000}$
- 3 Influent sampling reduced from monthly to quarterly in April 2021.

Table 2

**AOI-8 Oil Removal  
GM BCO Facility  
Bedford, Indiana**

<b>Date</b>	<b>Well</b>	<b>Oil Mass (lbs)</b>	<b>PCB Content (mass %)</b>	<b>PCB Mass (lbs) <sup>1</sup></b>
10/31/2018	CH-5	2.16	11%	0.24
11/5/2018	CH-5	2.28	11%	0.25
11/23/2018	CH-5	2.09	11%	0.23
12/4/2018	CH-5	2.81	11%	0.31
1/9/2019	CH-5	2.22	11%	0.24
1/23/2019	CH-5	2.16	11%	0.24
2/11/2019	CH-5	2.3	11%	0.25
2/26/2019	CH-5	2.33	11%	0.25
3/7/2019	CH-5	2.18	11%	0.24
3/18/2019	CH-5	2.29	11%	0.25
4/1/2019	CH-5	2.39	11%	0.26
7/15/2019	CH-5	2.85	11%	0.31
7/31/2019	CH-5	1.88	11%	0.21
8/22/2019	CH-5	1.1	11%	0.12
11/20/2019	CH-5	1.2	11%	0.13
12/17/2019	CH-5	2.5	11%	0.27
1/20/2020	CH-5	3	11%	0.33
2/13/2020	CH-5	2	11%	0.22
4/24/2020	CH-5	1.5	11%	0.16
7/16/2020	CH-5	1.25	11%	0.14
8/12/2020	CH-5	2.75	11%	0.30
9/24/2020	CH-5	2	11%	0.22
11/19/2020	CH-5	2	11%	0.22
12/21/2020	CH-5	3	11%	0.33
1/25/2021	CH-5	1.65	11%	0.18
2/24/2021	CH-5	2	11%	0.22
3/16/2021	CH-5	2	11%	0.22
4/20/2021	CH-5	2.48	11%	0.27
5/27/2021	CH-5	1.98	11%	0.22
6/21/2021	CH-5	1.98	11%	0.22
7/29/2021	CH-5	0.98	11%	0.11
8/26/2021	CH-5	0.48	11%	0.05
9/17/2021	CH-5	1.48	11%	0.16
10/28/2021	CH-5	0.98	11%	0.11
11/18/2021	CH-5	0.98	11%	0.11
12/9/2021	CH-5	0.48	11%	0.05
1/27/2022	CH-5	0.98	11%	0.11
2/16/2022	CH-5	1.23	11%	0.13
3/30/2022	CH-5	0.73	11%	0.08
4/25/2022	CH-5	1.73	11%	0.19
5/25/2022	CH-5	1.73	11%	0.19
6/29/2022	CH-5	0.98	11%	0.11
7/15/2022	CH-5	0.73	11%	0.08
9/8/2022	CH-5	0.48	11%	0.05
10/26/2022	CH-5	0.48	11%	0.05
11/30/2022	CH-5	1.73	11%	0.19
12/15/2022	CH-5	0.23	11%	0.03

Table 2

**AOI-8 Oil Removal  
GM BCO Facility  
Bedford, Indiana**

Date	Well	Oil Mass (lbs)	PCB Content (mass %)	PCB Mass (lbs) <sup>1</sup>
1/17/2023	CH-5	1.5	11%	0.16
2/23/2023	CH-5	0.75	11%	0.08
3/29/2023	CH-5	1	11%	0.11
<b>Total PCB Removed from CH-5 (LNAPL) <sup>1,3</sup></b>				<b>8.49</b>
3/25/2019	MW-X209Y053	24.21	40%	9.68
7/15/2019	MW-X209Y053	2.45	40%	0.98
7/31/2019	MW-X209Y053	1.98	40%	0.79
8/22/2019	MW-X209Y053	1.1	40%	0.44
1/20/2020	MW-X209Y053	2.1	40%	0.84
2/13/2020	MW-X209Y053	1	40%	0.40
4/24/2020	MW-X209Y053	1	40%	0.40
7/16/2020	MW-X209Y053	1.0	40%	0.40
9/24/2020	MW-X209Y053	1.6	40%	0.62
11/19/2020	MW-X209Y053	1.0	40%	0.40
12/21/2020	MW-X209Y053	2.8	40%	1.10
1/25/2021	MW-X209Y053	0.8	40%	0.32
2/24/2021	MW-X209Y053	1.5	40%	0.60
3/16/2021	MW-X209Y053	1.0	40%	0.40
4/20/2021	MW-X209Y053	1.48	40%	0.59
5/27/2021	MW-X209Y053	1.23	40%	0.49
6/21/2021	MW-X209Y053	0.73	40%	0.29
7/29/2021	MW-X209Y053	1.48	40%	0.59
8/26/2021	MW-X209Y053	1.48	40%	0.59
9/17/2021	MW-X209Y053	0.48	40%	0.19
10/28/2021	MW-X209Y053	0.73	40%	0.29
11/18/2021	MW-X209Y053	0.53	40%	0.21
12/9/2021	MW-X209Y053	0.48	40%	0.19
1/27/2022	MW-X209Y053	0.48	40%	0.19
2/16/2022	MW-X209Y053	0.73	40%	0.29
3/30/2022	MW-X209Y053	0.73	40%	0.29
4/25/2022	MW-X209Y053	0.98	40%	0.39
5/25/2022	MW-X209Y053	0.98	40%	0.39
6/29/2022	MW-X209Y053	0.73	40%	0.29
7/15/2022	MW-X209Y053	0.48	40%	0.19
9/8/2022	MW-X209Y053	0.00	40%	0.00
10/26/2022	MW-X209Y053	0.48	40%	0.19
11/30/2022	MW-X209Y053	0.00	40%	0.00
12/15/2022	MW-X209Y053	0.23	40%	0.09
1/17/2023	MW-X209Y053	0.50	40%	0.20
2/23/2023	MW-X209Y053	0.02	40%	0.01
3/29/2023	MW-X209Y053	0.50	40%	0.20
<b>Total PCB Removed from MW-X209Y053 (DNAPL) <sup>1,2,4</sup></b>				<b>23.56</b>
3/28/2019	CH-2A (solar sipper)	74.05	58%	42.95
2/11/2021	CH-2A (solar sipper)	159.72	58%	92.64
<b>Total PCB Removed from CH-2A (DNAPL) <sup>1,2,5</sup></b>				<b>135.59</b>



Table 2

**AOI-8 Oil Removal  
GM BCO Facility  
Bedford, Indiana**

<b>Date</b>	<b>Well</b>	<b>Oil Mass (lbs)</b>	<b>PCB Content (mass %)</b>	<b>PCB Mass (lbs) <sup>1</sup></b>
3/16/2021	CAMW-3	1	31%	0.31
4/20/2021	CAMW-3	2.0	31%	0.61
5/27/2021	CAMW-3	0.7	31%	0.23
6/21/2021	CAMW-3	1.5	31%	0.46
7/29/2021	CAMW-3	0.5	31%	0.15
8/26/2021	CAMW-3	0.18	31%	0.06
9/17/2021	CAMW-3	1.48	31%	0.46
10/28/2021	CAMW-3	1.48	31%	0.46
11/18/2021	CAMW-3	0.48	31%	0.15
12/9/2021	CAMW-3	0.98	31%	0.30
1/27/2022	CAMW-3	0.48	31%	0.15
2/16/2022	CAMW-3	0.73	31%	0.23
3/30/2022	CAMW-3	0.48	31%	0.15
4/25/2022	CAMW-3	1.23	31%	0.38
5/25/2022	CAMW-3	0.98	31%	0.30
6/29/2022	CAMW-3	0.73	31%	0.23
7/15/2022	CAMW-3	0	31%	0.00
9/8/2022	CAMW-3	0.23	31%	0.07
10/26/2022	CAMW-3	0.73	31%	0.23
11/30/2022	CAMW-3	0	31%	0.00
12/15/2022	CAMW-3	0.23	31%	0.07
1/17/2023	CAMW-3	0.48	31%	0.15
2/23/2023	CAMW-3	0.25	31%	0.08
3/29/2023	CAMW-3	0.5	31%	0.16
<b>Total PCB Removed from CAMW-3 (DNAPL) <sup>6,7</sup></b>				<b>5.37</b>
4/25/2022	CAMW-2 upper NAPL	26.61	16%	4.26
5/23/2022	CAMW-2 lower NAPL	86.33	31%	26.76
<b>Total PCB Removed from CAMW-2 during test <sup>1,8,9,10</sup></b>				<b>31.02</b>

Table 2

**AOI-8 Oil Removal  
GM BCO Facility  
Bedford, Indiana**

Notes:

1 PCB weight based on average of analytical data

Location	Sample Date	PCB (mg/kg)	Average (mg/kg)
CH-5	9/19/2005	224,500	109,067
	8/16/2011	89,700	
	4/9/2014	13,000	
MW-X209Y053	9/19/2006	400,000	400,000
CH-2A	11/5/2008	380,000	580,000
	4/9/2014	780,000	
CAMW-2 (lower)	11/21/2019	310,000	310,000
CAMW-2 (upper)	11/21/2019	160,000	160,000

2 PCB weight from solar sipper and the initial removal from MW-X209Y053 (3/25/2019) is based on an approximate gallons of oil removal. DNAPL density of 1.16 g/cc used when converting volume (gallons) to mass (pounds). Density value determined by laboratory analysis from the 4/19/2014 sampling event.

3 CH-5 Mass (lbs)=  $\frac{\text{Sock net weight (lbs)} \times 109,067 \text{ (mg/kg)}}{1,000,000 \text{ (mg/kg)}}$

4 MW-X209Y053  
Mass (lbs) =  $\frac{\text{Sock net weight (lbs)} \times 400,000 \text{ (mg/kg)}}{1,000,000 \text{ (mg/kg)}}$

3/25/2019 mass removal calculated based on removal of 2.5 gallons of NAPL

5 CH-2A Mass  
(lbs) =  $\frac{\text{Liquid weight (lbs)} \times 580,000 \text{ (mg/kg)}}{1,000,000 \text{ (mg/kg)}}$

6 CAMW-3 Mass  
(lbs)=  $\frac{\text{Sock net weight (lbs)} \times 310,000 \text{ (mg/kg)}}{1,000,000 \text{ (mg/kg)}}$

7 PCB concentration at CAMW-2 used for removal calculations as no data is available for CAMW 3 and the two locations are in close proximity.

8 PCB weight from CAMW-2 is based on an approximate gallons of oil removal during the oil recovery test. Upper and lower NAPL density of 1.18 g/cc and 1.15 g/cc, respectively, used when converting volume (gallons) to mass (pounds). Density value determined by laboratory analysis from the 11/21/2019 sampling event.

9 CAMW-2 (upper)  
Mass (lbs) =  $\frac{\text{Liquid weight (lbs)} \times 160,000 \text{ (mg/kg)}}{1,000,000 \text{ (mg/kg)}}$

10 CAMW-2 (lower)  
Mass (lbs) =  $\frac{\text{Liquid weight (lbs)} \times 310,000 \text{ (mg/kg)}}{1,000,000 \text{ (mg/kg)}}$

# Attachments

# **Attachment A**

**Field Inspection Form and Photos**

TABLE D.1

COVER SYSTEMS INSPECTION LOG  
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
GM CET BEDFORD FACILITY  
BEDFORD, INDIANA

Date of Inspection: \_\_\_\_\_ Weather: \_\_\_\_\_  
Inspector: \_\_\_\_\_ Temperature: \_\_\_\_\_

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>VEGETATED SOIL COVER SYSTEM</b>						
<b>Transect EV1</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
<b>Transect EV2</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					

TABLE D.1

COVER SYSTEMS INSPECTION LOG  
CONSTRUCTION CERTIFICATION REPORT EAST PLANT COVER SYSTEM  
GM CET BEDFORD FACILITY  
BEDFORD, INDIANA

ITEM	TYPES OF PROBLEMS	CHECKED		DETAILED ACTIONS REQUIRED	NOTES	DATE AND NATURE OF ACTIONS COMPLETED
		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>VEGETATED SOIL COVER SYSTEM (CONTINUED)</b>						
	<b>Transect EV3</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect EV4</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect EV5</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EXPOSURE OF LINER				
		- EROSION				
		- LOCALIZED SETTLEMENT/SLUMPING				
		- PONDING OF WATER/DRAINAGE				
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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>VEGETATED SOIL COVER SYSTEM (CONTINUED)</b>						
<b>Transect EV6</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
<b>Transect EV7</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
<b>Transect EV8</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>VEGETATED SOIL COVER SYSTEM (CONTINUED)</b>						
<b>Transect EV9</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
	- EXPOSURE OF LINER					
	- EROSION					
	- LOCALIZED SETTLEMENT/SLUMPING					
	- PONDING OF WATER/DRAINAGE					
	- SIGNS OF BURROWING BY ANIMALS					
	- ROOTING OF TREES					
	<b>Transect WV1</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
- EXPOSURE OF LINER						
- EROSION						
- LOCALIZED SETTLEMENT/SLUMPING						
- PONDING OF WATER/DRAINAGE						
- SIGNS OF BURROWING BY ANIMALS						
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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>HARD SURFACE COVER SYSTEMS</b>						
	<b>Transect EA1</b>	- QUALITY OF ASPHALT COVER				
		- PRESENCE OF CRACKING OR DISCOLORATION				
	<b>Transect EA2</b>	- QUALITY OF ASPHALT COVER				
		- PRESENCE OF CRACKING OR DISCOLORATION				
	<b>Transect WA1</b>	- QUALITY OF ASPHALT COVER				
		- PRESENCE OF CRACKING OR DISCOLORATION				
<b>ACCESS ROAD</b>						
	<b>ACCESS ROAD</b>	- EROSION				
		- OBSTRUCTIONS/DEBRIS				
		- POTHOLES				
		- DAMAGE CAUSED BY VEHICULAR TRAFFIC				

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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED				
<b>SWALE/DRAINAGE DITCHES</b>							
	<b>Transect ES1</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
		- EROSION					
		- OBSTRUCTIONS					
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION					
		- SIGNS OF BURROWING BY ANIMALS					
		- ROOTING OF TREES					
	<b>Transect ES2</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
		- EROSION					
		- OBSTRUCTIONS					
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION					
		- SIGNS OF BURROWING BY ANIMALS					
		- ROOTING OF TREES					
	<b>Transect ES3</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS					
		- EROSION					
		- OBSTRUCTIONS					
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION					
		- SIGNS OF BURROWING BY ANIMALS					
		- ROOTING OF TREES					

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		NO PROBLEMS	CORRECTIVE ACTION REQUIRED			
<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>						
	<b>Transect ES4</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES5</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES6</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
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<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>						
	<b>Transect ES7</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES8</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES9</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
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<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>						
	<b>Transect ES10</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES11</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES12</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
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<b>SWALE/DRAINAGE DITCHES (CONTINUED)</b>						
	<b>Transect ES13</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				
	<b>Transect ES13 (ES14)</b>	- QUALITY OF VEGETATIVE COVER - LENGTH OF GRASS - DEAD/DYING GRASS - GRASS COVERAGE - NOXIOUS WEEDS				
		- EROSION				
		- OBSTRUCTIONS				
		- CULVERT/CATCH BASIN - OBSTRUCTIONS - SEDIMENT ACCUMULATION				
		- SIGNS OF BURROWING BY ANIMALS				
		- ROOTING OF TREES				

# Site Photographs



**Photo 1**    *Looking northwest, example of sapling to be removed*



**Photo 2**    *Looking west, ground surface conditions conditions*



**Photo 3** Looking north, example of asphalt cracks to be filled



**Photo 4** Looking south, general site conditions





**Photo 5** *Looking west, general site conditions*



**Photo 6** *Looking northwest, general site conditions*